NEWS RELEASE

Advent Technologies Reports Fivefold Increase in Bookings and Shipments of Materials for Redox Flow Batteries in Q1

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Advent's Materials Have Longer Lifetime and are Lower Cost Than Those of Ion Exchange Membranes

BOSTON--(BUSINESS WIRE)-- Advent Technologies Holdings, Inc. (NASDAQ: ADN) ("Advent") today reported that bookings and shipments of their materials for redox flow batteries (RFBs) in the first quarter of 2021 rose by 500 percent year-over-year. Advent's materials apply to renewable energy storage and production, including the membrane electrode assemblies used in high temperature fuel cells.

Dr. Emory DeCastro, Advent Technologies Chief Technology Officer, commented: "Advent's materials solve critical problems for flow batteries by making utility-scale energy storage devices cost effective. Our tremendous year-over-year increase not only represents the start of new supply agreements, but it is also our most significant contribution into commercial redox flow battery systems to date. The ability to provide increasing quantities of customer-specific components also reinforces our strategy of using Advent manufacturing processes at third party production facilities."

Advent Materials for Redox Flow Batteries

Advent produces membranes and electrodes for flow battery chemistries that will enable long-term storage of excess power during off-peak periods, and it will address the asymmetry between the demand and supply of solar and wind-generated power. Advent's membranes for RFBs offer a longer lifetime at a lower cost than typical ion exchange membranes.

Currently, with mass-production capabilities, Advent is developing low cost, high quality electrodes for the leading RFBs chemistries. New membranes from Advent's participation in the Advanced Research Projects Agency–Energy ("ARPA-E") program show great potential to lower costs and increase selectivity for the vanadium RFBs. These membranes demonstrate how Advent is able to engineer properties into critical materials for customers.

Benefits of Redox Flow Batteries

RFBs are considered a vital bridging technology for intermittent power generation from renewable sources such as wind and solar. They offer a viable alternative to Lithium-ion batteries (LIBs) for stationary energy storage, especially for extended operation. Since LIBs store all their energy in one package, this leads to some serious safety concerns – especially for the outbreak of highly combustive fires that need highly specialized equipment to contain. On the other hand, RFBs keep the energy in separate tanks that are easy to isolate in the case of a mishap.

RFBs can address a variety of markets that are not appropriate for LIBs. For example, in the case of RFBs, if more energy (kWh) is needed, bigger tanks can be built; and if more power (kW) is needed, a larger stack can be used without changing the tank size.

About Advent Technologies Holdings, Inc.

Advent Technologies Holdings, Inc. is a U.S. corporation that develops, manufactures, and assembles critical components for fuel cells and advanced energy systems in the renewable energy sector. Advent is headquartered in Boston, Massachusetts, with offices in the San Francisco Bay Area and Europe. With 120-plus patents (issued and pending) for its fuel cell technology, Advent holds the IP for next-gen high-temperature proton exchange membranes (HT-PEM) that enable various fuels to function at high temperatures under extreme conditions – offering a flexible 'Any Fuel. Anywhere' option for the automotive, maritime, aviation and power generation sectors. **www.advent.energy**

Cautionary Note Regarding Forward-Looking Statements

This press release includes forward-looking statements. These forward-looking statements generally can be identified by the use of words such as "anticipate," "expect," "plan," "could," "may," "will," "believe," "estimate," "forecast," "goal," "project," and other words of similar meaning. These forward-looking statements address various matters including the Company's plans and expectations with respect to Project White Dragon. Each forward-looking statement contained in this press release is subject to risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statement. Applicable risks and uncertainties include, among others, the Company's ability to realize the benefits from the business combination; the Company's ability to maintain the listing of the Company's common stock on Nasdaq; future financial performance; public securities'

potential liquidity and trading; impact from the outcome of any known and unknown litigation; ability to forecast and maintain an adequate rate of revenue growth and appropriately plan its expenses; expectations regarding future expenditures; future mix of revenue and effect on gross margins; attraction and retention of qualified directors, officers, employees and key personnel; ability to compete effectively in a competitive industry; ability to protect and enhance our corporate reputation and brand; expectations concerning our relationships and actions with our technology partners and other third parties; impact from future regulatory, judicial and legislative changes to the industry; ability to locate and acquire complementary technologies or services and integrate those into the Company's business; future arrangements with, or investments in, other entities or associations; and intense competition and competitive pressure from other companies worldwide in the industries in which the Company will operate; and the risks identified under the heading "Risk Factors" in our Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 26, 2021, as well as the other information we file with the SEC. We caution investors not to place considerable reliance on the forward-looking statements contained in this press release. You are encouraged to read our filings with the SEC, available at **www.sec.gov**, for a discussion of these and other risks and uncertainties. The forward-looking statements in this press release speak only as of the date of this document, and we undertake no obligation to update or revise any of these statements. Our business is subject to substantial risks and uncertainties, including those referenced above. Investors, potential investors, and others should give careful consideration to these risks and uncertainties.

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